

**REMARKS****Interview request**

Applicants respectfully request a telephonic interview after the Examiner has reviewed the instant response and amendment. Applicants request the Examiner call Applicants' representatives Jim Mullen at (858) 720-7940 or Gregory Einhorn at (858) 720-5133.

**Status of the Claims***Pending claims*

Claims 4-8 and 12-15 are pending.

*Claims canceled and added in the instant amendment*

In the present response, claims 4-8 and 12-15 are canceled, without prejudice. The formerly pending claims are now replaced with new claims 16 to 39. Accordingly, after entry of the instant amendment, claims 16 to 39 will be pending and under examination. Reconsideration of the present application is requested. Applicants reserve the right to pursue the subject matter of these claims in a continuation application.

*Allowable claims*

Applicants thank the Examiner for finding that claim 6 would be allowable if re-written in independent form including all of the limitations of the base claim and any intervening claim. Please note new claim 39.

*Outstanding Rejections*

Claims 4, 5, 7, 8 and 12 to 15 are rejected under 35 U.S.C. §112, first paragraph. Claim 4 was rejected under 35 U.S.C. §§ 102 (a) and (e) as allegedly being anticipated by U.S. Patent No. 6,184,351 ("the '351 patent") or in the alternative, under § 103. Claims 4, 7-8 and 12-15 were rejected under 35 U.S.C. § 102 (b) as allegedly being anticipated by Jensen, *et al.*, *Biochem. J.* (1997) 323:539-546 as evidenced by Harris, *et al.*, *Experimental Neurology* (1995) 131(2):193-202. Claims 4, 7-8 and 12-15 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Hashimoto, *et al.*, *NeuroReport* (1999) 10:717-721 alone or alternatively in view of either U.S.

Patent No. 6,184,351 or Jensen, *et al.*, *Biochem. J.* (1997) 323:539-546. Applicants respectfully traverse all outstanding rejections of the claims.

Previous Response and Restriction

Applicants gratefully acknowledge withdrawal of the rejections previously pending. Applicants also acknowledge the election of Group II.

Applicants were in Possession of the Invention at the Time of Filing

The previously pending claims were rejected under 35 U.S.C. § 112, first paragraph, for allegedly containing subject matter not sufficiently described in the specification to reasonably convey to a skilled artisan that applicants were in possession of the invention. Applicants respectfully disagree with the Office regarding this rejection.

Solely to advance the prosecution of the pending case however, Applicants have cancelled the formerly pending claims and replaced them with new claims 16 to 39. The new claims are directed to methods of inhibiting NACP/ $\alpha$ -synuclein aggregation and methods of identifying a NACP/ $\alpha$ -synuclein aggregation inhibitor using metal-ion catalyzed oxidative conditions.

Ample support for the new claims is in both the specification as filed and in the provisional application. To illustrate, Examples 1 and 2 of the application disclose the stimulatory effect iron-catalyzed reactions have on NACP/ $\alpha$ -synuclein aggregation, for example inducing NACP/ $\alpha$ -synuclein aggregation by iron-catalyzed oxidative reaction (please see pages 22 to 24 of the specification). Example 8 discloses the inhibitory effect  $\beta$ -synuclein has on  $\alpha$ -synuclein aggregation (please see pages 28 of the specification). These teachings as well as other support found generally throughout the specification provide more than adequate written support for the subject matter of the claimed invention.

The Claimed Invention is Supported by a Fully Enabling Disclosure

The formerly pending claims were rejected under 35 U.S.C. § 112, first paragraph, because the claimed subject matter was allegedly not enabled for inducing aggregation via exposure to any oxidizing agent or mixture of metal-ions and hydrogen peroxide.

The Patent Office notes that iron-catalyzed oxidizing agents are supported and in scope with claim 6 (please note lines 18 and 19, page 5 of the instant Office Action).

While Applicants disagree with the reasoning of the Office regarding this rejection, to expedite prosecution of the application, the formerly rejected claims have been cancelled and replaced with new claims 16 to 39, which are now directed to methods using metal-ion catalyzed oxidative conditions which facilitate NACP/ $\alpha$ -synuclein aggregation. An example of such conditions includes the use of iron and iron-catalyzed oxidizing agents.

### Priority

The Office has alleged that the provisional application did not adequately disclosed inducing aggregation via exposure to any oxidizing agent or mixture of metal-ions and hydrogen peroxide. Applicants respectfully traverse. Applicants submit that one of ordinary skill in the art would have readily recognized from the disclosure of the provisional application taken with the knowledge in the relevant art, that metal-ion catalyzed oxidative conditions could be used to facilitate NACP/ $\alpha$ -synuclein aggregation.

### The Subject Matter of the Claimed Invention is Novel and Non-Obvious

#### *The '351 patent*

Claim 4 was rejected under 35 U.S.C. §§ 102 (a) and (e) as allegedly being anticipated by U.S. Patent No. 6,184,351 ("the '351 patent") or in the alternative, under § 103.

The legal standard for anticipation under 35 U.S.C. §102 is one of strict identity. To anticipate a claim, a single prior source must contain each and every limitation of the claimed invention. In re Paulson, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994)(citing In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990)).

The subject matter of the '351 patent is directed to  $\alpha$ -synuclein mutants that accelerate  $\alpha$ -synuclein aggregation, e.g., an *in vitro* aggregation assay for evaluating alpha-synuclein mutants. However, the '351 patent neither teaches nor suggests use of methods using metal-ion catalyzed oxidative conditions to facilitate NACP/ $\alpha$ -synuclein (in fact, the '351 patent incubated alpha-synuclein over several days to induce aggregation, see, e.g., column 6, Example 3).

Accordingly, the '351 patent neither anticipates nor renders obvious the methods recited in the new claims.

*Jensen as evidenced by Harris*

Claims 4, 7-8 and 12-15 were rejected under 35 U.S.C. § 102 (b) as allegedly being anticipated by Jensen, *et al.*, *Biochem. J.* (1997) 323:539-546 as evidenced by Harris, *et al.*, *Experimental Neurology* (1995) 131(2):193-202. The subject matter of the former claims has been cancelled, thus the grounds for the present rejection is moot. The subject matter of the new claims is directed to methods of identifying inhibitors of or inhibiting  $\alpha$ -synuclein aggregation comprising use of metal-ion catalyzed oxidative conditions to facilitate NACP/ $\alpha$ -synuclein aggregation. Jensen does not teach the newly claimed subject matter. For example, Jensen does not teach inhibiting  $\alpha$ -synuclein aggregation in the presence of metal-ion catalyzed oxidizing agents. Because Jensen does not teach all the limitations of the claims, it does not anticipate the new claims.

*Hashimoto alone or in view of the '351 patent or Jensen*

Claims 4, 7-8 and 12-15 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Hashimoto, *et al.*, *NeuroReport* (1999) 10:717-721 alone or alternatively in view of either U.S. Patent No. 6,184,351 or Jensen, *et al.*, *Biochem. J.* (1997) 323:539-546. As noted above, the previously pending claims have been cancelled. As such, the present rejection is moot.

Nevertheless, Applicants note that Hashimoto is not available as a prior art reference with respect to the subject matter of the present application as the paper was published after the filing date of the provisional application to which the present case claims priority. Moreover, a draft manuscript of Hashimoto forms part of the specification of the provisional application. Thus, this reference does not, in any way, prejudice the patentability of the present application.

**CONCLUSION**

In view of the foregoing amendment and remarks, it is believed that the Examiner can properly withdraw the rejections of the pending claims under 35 U.S.C. §112, first paragraph, 35 U.S.C. §102 and 35 U.S.C. §103. Applicants believe all claims pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket No. **220002065000**.

As noted above, Applicants have requested a telephone conference with the undersigned representative to expedite prosecution of this application. After the Examiner has reviewed the instant response and amendment, please telephone the undersigned at 858 720 7940 or Gregory Einhorn at (858) 720-5133.

Respectfully submitted,

Dated: August 5, 2004

By:

  
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